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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/851,516	05/08/2001	John W. Lough JR.	650053.91134	4340

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EXAMINER

ROMEO, DAVID S

ART UNIT PAPER NUMBER

1647

DATE MAILED: 09/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/851,516	<b>Applicant(s)</b> LOUGH ET AL.	
	<b>Examiner</b> David S Romeo	<b>Art Unit</b> 1647	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 May 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-21 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Election/Restrictions***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-4, to the extent that they are drawn to a composition comprising BMP-4 and FGF-1, classified in class 530, subclass 350.
- II. Claims 1-5, to the extent that they are drawn to a composition comprising BMP-4 and FGF-2, classified in class 530, subclass 350.
- III. Claims 1-5, to the extent that they are drawn to a composition comprising BMP-4 and FGF-4, classified in class 530, subclass 350.
- IV. Claims 1-4, to the extent that they are drawn to a composition comprising BMP-4 and FGF-5, classified in class 530, subclass 350.
- V. Claims 1-4, to the extent that they are drawn to a composition comprising BMP-4 and FGF-6, classified in class 530, subclass 350.
- VI. Claims 1-4, to the extent that they are drawn to a composition comprising BMP-4 and FGF-8, classified in class 530, subclass 350.
- VII. Claims 1-4, to the extent that they are drawn to a composition comprising BMP-4 and FGF-9, classified in class 530, subclass 350.
- VIII. Claims 1-4, to the extent that they are drawn to a composition comprising BMP-6 and FGF-1, classified in class 530, subclass 350.
- IX. Claims 1-4, to the extent that they are drawn to a composition comprising BMP-6 and FGF-2, classified in class 530, subclass 350.
- X. Claims 1-4, to the extent that they are drawn to a composition comprising BMP-6 and FGF-4, classified in class 530, subclass 350.

- XI. Claims 1-4, to the extent that they are drawn to a composition comprising BMP-6 and FGF-5, classified in class 530, subclass 350.
- XII. Claims 1-4, to the extent that they are drawn to a composition comprising BMP-6 and FGF-6, classified in class 530, subclass 350.
- XIII. Claims 1-4, to the extent that they are drawn to a composition comprising BMP-6 and FGF-8, classified in class 530, subclass 350.
- XIV. Claims 1-4, to the extent that they are drawn to a composition comprising BMP-6 and FGF-9, classified in class 530, subclass 350.
- XV. Claims 1-4, to the extent that they are drawn to a composition comprising BMP-7 and FGF-1, classified in class 530, subclass 350.
- XVI. Claims 1-4, to the extent that they are drawn to a composition comprising BMP-7 and FGF-2, classified in class 530, subclass 350.
- XVII. Claims 1-4, to the extent that they are drawn to a composition comprising BMP-7 and FGF-4, classified in class 530, subclass 350.
- XVIII. Claims 1-4, to the extent that they are drawn to a composition comprising BMP-7 and FGF-5, classified in class 530, subclass 350.
- XIX. Claims 1-4, to the extent that they are drawn to a composition comprising BMP-7 and FGF-6, classified in class 530, subclass 350.
- XX. Claims 1-4, to the extent that they are drawn to a composition comprising BMP-7 and FGF-8, classified in class 530, subclass 350.
- XXI. Claims 1-4, to the extent that they are drawn to a composition comprising BMP-7 and FGF-9, classified in class 530, subclass 350.

- XXII. Claims 1-4, to the extent that they are drawn to a composition comprising BMP-12 and FGF-1, classified in class 530, subclass 350.
- XXIII. Claims 1-4, to the extent that they are drawn to a composition comprising BMP-12 and FGF-2, classified in class 530, subclass 350.
- XXIV. Claims 1-4, to the extent that they are drawn to a composition comprising BMP-12 and FGF-4, classified in class 530, subclass 350.
- XXV. Claims 1-4, to the extent that they are drawn to a composition comprising BMP-12 and FGF-5, classified in class 530, subclass 350.
- XXVI. Claims 1-4, to the extent that they are drawn to a composition comprising BMP-12 and FGF-6, classified in class 530, subclass 350.
- XXVII. Claims 1-4, to the extent that they are drawn to a composition comprising BMP-12 and FGF-8, classified in class 530, subclass 350.
- XXVIII. Claims 1-4, to the extent that they are drawn to a composition comprising BMP-12 and FGF-9, classified in class 530, subclass 350.
- XXIX. Claims 6-9, to the extent that they are drawn to a composition comprising BMP-2 and FGF-1, classified in class 530, subclass 350.
- XXX. Claims 6-10, to the extent that they are drawn to a composition comprising BMP-2 and FGF-2, classified in class 530, subclass 350.
- XXXI. Claims 6-9, to the extent that they are drawn to a composition comprising BMP-2 and FGF-5, classified in class 530, subclass 350.
- XXXII. Claims 6-9, to the extent that they are drawn to a composition comprising BMP-2 and FGF-6, classified in class 530, subclass 350.

- XXXIII. Claims 6-9, to the extent that they are drawn to a composition comprising BMP-2 and FGF-8, classified in class 530, subclass 350.
- XXXIV. Claims 6-9, to the extent that they are drawn to a composition comprising BMP-2 and FGF-9, classified in class 530, subclass 350.
- XXXV. Claims 11-15, 17, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vivo by exposing the cells to a composition comprising BMP-2 and FGF-1, classified in class 514, subclass 12.
- XXXVI. Claims 11-15, 17, 19, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vivo by exposing the cells to a composition comprising BMP-2 and FGF-2, classified in class 514, subclass 12.
- XXXVII. Claims 11-15, 17, 19, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vivo by exposing the cells to a composition comprising BMP-2 and FGF-4, classified in class 514, subclass 12.
- XXXVIII. Claims 11-15, 17, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vivo by exposing the cells to a composition comprising BMP-2 and FGF-5, classified in class 514, subclass 12.
- XXXIX. Claims 11-15, 17, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vivo by exposing the cells to a composition comprising BMP-2 and FGF-6, classified in class 514, subclass 12.
- XL. Claims 11-15, 17, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vivo by exposing the cells to a composition comprising BMP-2 and FGF-8, classified in class 514, subclass 12.

- XLI. Claims 11-15, 17, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vivo by exposing the cells to a composition comprising BMP-2 and FGF-9, classified in class 514, subclass 12.
- XLII. Claims 11-15, 17, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vivo by exposing the cells to a composition comprising BMP-4 and FGF-1, classified in class 514, subclass 12.
- XLIII. Claims 11-15, 17, 19, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vivo by exposing the cells to a composition comprising BMP-4 and FGF-2, classified in class 514, subclass 12.
- XLIV. Claims 11-15, 17, 19, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vivo by exposing the cells to a composition comprising BMP-4 and FGF-4, classified in class 514, subclass 12.
- XLV. Claims 11-15, 17, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vivo by exposing the cells to a composition comprising BMP-4 and FGF-5, classified in class 514, subclass 12.
- XLVI. Claims 11-15, 17, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vivo by exposing the cells to a composition comprising BMP-4 and FGF-6, classified in class 514, subclass 12.
- XLVII. Claims 11-15, 17, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vivo by exposing the cells to a composition comprising BMP-4 and FGF-8, classified in class 514, subclass 12.

- XLVIII. Claims 11-15, 17, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vivo by exposing the cells to a composition comprising BMP-4 and FGF-9, classified in class 514, subclass 12.
- XLIX. Claims 11-15, 17, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vivo by exposing the cells to a composition comprising BMP-6 and FGF-1, classified in class 514, subclass 12.
- L. Claims 11-15, 17, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vivo by exposing the cells to a composition comprising BMP-6 and FGF-2, classified in class 514, subclass 12.
- LI. Claims 11-15, 17, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vivo by exposing the cells to a composition comprising BMP-6 and FGF-4, classified in class 514, subclass 12.
- LII. Claims 11-15, 17, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vivo by exposing the cells to a composition comprising BMP-6 and FGF-5, classified in class 514, subclass 12.
- LIII. Claims 11-15, 17, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vivo by exposing the cells to a composition comprising BMP-6 and FGF-6, classified in class 514, subclass 12.
- LIV. Claims 11-15, 17, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vivo by exposing the cells to a composition comprising BMP-6 and FGF-8, classified in class 514, subclass 12.



- LV. Claims 11-15, 17, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vivo by exposing the cells to a composition comprising BMP-6 and FGF-9, classified in class 514, subclass 12.
- LVI. Claims 11-15, 17, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vivo by exposing the cells to a composition comprising BMP-7 and FGF-1, classified in class 514, subclass 12.
- LVII. Claims 11-15, 17, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vivo by exposing the cells to a composition comprising BMP-7 and FGF-2, classified in class 514, subclass 12.
- LVIII. Claims 11-15, 17, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vivo by exposing the cells to a composition comprising BMP-7 and FGF-4, classified in class 514, subclass 12.
- LIX. Claims 11-15, 17, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vivo by exposing the cells to a composition comprising BMP-7 and FGF-5, classified in class 514, subclass 12.
- LX. Claims 11-15, 17, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vivo by exposing the cells to a composition comprising BMP-7 and FGF-6, classified in class 514, subclass 12.
- LXI. Claims 11-15, 17, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vivo by exposing the cells to a composition comprising BMP-7 and FGF-8, classified in class 514, subclass 12.

- LXII. Claims 11-15, 17, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vivo by exposing the cells to a composition comprising BMP-7 and FGF-9, classified in class 514, subclass 12.
- LXIII. Claims 11-15, 17, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vivo by exposing the cells to a composition comprising BMP-12 and FGF-1, classified in class 514, subclass 12.
- LXIV. Claims 11-15, 17, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vivo by exposing the cells to a composition comprising BMP-12 and FGF-2, classified in class 514, subclass 12.
- LXV. Claims 11-15, 17, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vivo by exposing the cells to a composition comprising BMP-12 and FGF-4, classified in class 514, subclass 12.
- LXVI. Claims 11-15, 17, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vivo by exposing the cells to a composition comprising BMP-12 and FGF-5, classified in class 514, subclass 12.
- LXVII. Claims 11-15, 17, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vivo by exposing the cells to a composition comprising BMP-12 and FGF-6, classified in class 514, subclass 12.
- LXVIII. Claims 11-15, 17, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vivo by exposing the cells to a composition comprising BMP-12 and FGF-8, classified in class 514, subclass 12.

- LXIX. Claims 11-15, 17, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vivo by exposing the cells to a composition comprising BMP-12 and FGF-9, classified in class 514, subclass 12.
- LXX. Claims 11-15, 18, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a composition comprising BMP-2 and FGF-1, classified in class 435, subclass 325.
- LXXI. Claims 11-15, 18, 19, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a composition comprising BMP-2 and FGF-2, classified in class 435, subclass 325.
- LXXII. Claims 11-15, 18, 19, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a composition comprising BMP-2 and FGF-4, classified in class 435, subclass 325.
- LXXIII. Claims 11-15, 18, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a composition comprising BMP-2 and FGF-5, classified in class 435, subclass 325.
- LXXIV. Claims 11-15, 18, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a composition comprising BMP-2 and FGF-6, classified in class 435, subclass 325.
- LXXV. Claims 11-15, 18, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a composition comprising BMP-2 and FGF-8, classified in class 435, subclass 325.

- LXXVI. Claims 11-15, 18, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a composition comprising BMP-2 and FGF-9, classified in class 435, subclass 325.
- LXXVII. Claims 11-15, 18, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a composition comprising BMP-4 and FGF-1, classified in class 435, subclass 325.
- LXXVIII. Claims 11-15, 18, 19, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a composition comprising BMP-4 and FGF-2, classified in class 435, subclass 325.
- LXXIX. Claims 11-15, 18, 19, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a composition comprising BMP-4 and FGF-4, classified in class 435, subclass 325.
- LXXX. Claims 11-15, 18, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a composition comprising BMP-4 and FGF-5, classified in class 435, subclass 325.
- LXXXI. Claims 11-15, 18, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a composition comprising BMP-4 and FGF-6, classified in class 435, subclass 325.
- LXXXII. Claims 11-15, 18, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a composition comprising BMP-4 and FGF-8, classified in class 435, subclass 325.

- LXXXIII. Claims 11-15, 18, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a composition comprising BMP-4 and FGF-9, classified in class 435, subclass 325.
- LXXXIV. Claims 11-15, 18, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a composition comprising BMP-6 and FGF-1, classified in class 435, subclass 325.
- LXXXV. Claims 11-15, 18, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a composition comprising BMP-6 and FGF-2, classified in class 435, subclass 325.
- LXXXVI. Claims 11-15, 18, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a composition comprising BMP-6 and FGF-4, classified in class 435, subclass 325.
- LXXXVII. Claims 11-15, 18, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a composition comprising BMP-6 and FGF-5, classified in class 435, subclass 325.
- LXXXVIII. Claims 11-15, 18, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a composition comprising BMP-6 and FGF-6, classified in class 435, subclass 325.
- LXXXIX. Claims 11-15, 18, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a composition comprising BMP-6 and FGF-8, classified in class 435, subclass 325.

- XC. Claims 11-15, 18, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a composition comprising BMP-6 and FGF-9, classified in class 435, subclass 325.
- XCI. Claims 11-15, 18, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a composition comprising BMP-7 and FGF-1, classified in class 435, subclass 325.
- XCII. Claims 11-15, 18, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a composition comprising BMP-7 and FGF-2, classified in class 435, subclass 325.
- XCIII. Claims 11-15, 18, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a composition comprising BMP-7 and FGF-4, classified in class 435, subclass 325.
- XCIV. Claims 11-15, 18, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a composition comprising BMP-7 and FGF-5, classified in class 435, subclass 325.
- XCV. Claims 11-15, 18, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a composition comprising BMP-7 and FGF-6, classified in class 435, subclass 325.
- XCVI. Claims 11-15, 18, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a composition comprising BMP-7 and FGF-8, classified in class 435, subclass 325.

- XCVII. Claims 11-15, 18, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a composition comprising BMP-7 and FGF-9, classified in class 435, subclass 325.
- XCVIII. Claims 11-15, 18, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a composition comprising BMP-12 and FGF-1, classified in class 435, subclass 325.
- XCIX. Claims 11-15, 18, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a composition comprising BMP-12 and FGF-2, classified in class 435, subclass 325.
- C. Claims 11-15, 18, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a composition comprising BMP-12 and FGF-4, classified in class 435, subclass 325.
- CI. Claims 11-15, 18, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a composition comprising BMP-12 and FGF-5, classified in class 435, subclass 325.
- CII. Claims 11-15, 18, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a composition comprising BMP-12 and FGF-6, classified in class 435, subclass 325.
- CIII. Claims 11-15, 18, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a composition comprising BMP-12 and FGF-8, classified in class 435, subclass 325.

- CIV. Claims 11-15, 18, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a composition comprising BMP-12 and FGF-9, classified in class 435, subclass 325.
- CV. Claims 11-16, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a genetic construct encoding BMP-2 and FGF-1, classified in class 514, subclass 44.
- CVI. Claims 11-16, 19, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a genetic construct encoding BMP-2 and FGF-2, classified in class 514, subclass 44.
- CVII. Claims 11-16, 19, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a genetic construct encoding BMP-2 and FGF-4, classified in class 514, subclass 44.
- CVIII. Claims 11-16, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a genetic construct encoding BMP-2 and FGF-5, classified in class 514, subclass 44.
- CIX. Claims 11-16, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a genetic construct encoding BMP-2 and FGF-6, classified in class 514, subclass 44.
- CX. Claims 11-16, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a genetic construct encoding BMP-2 and FGF-8, classified in class 514, subclass 44.



- CXI. Claims 11-16, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a genetic construct encoding BMP-2 and FGF-9, classified in class 514, subclass 44.
- CXII. Claims 11-16, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a genetic construct encoding BMP-4 and FGF-1, classified in class 514, subclass 44.
- CXIII. Claims 11-16, 19, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a genetic construct encoding BMP-4 and FGF-2, classified in class 514, subclass 44.
- CXIV. Claims 11-16, 19, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a genetic construct encoding BMP-4 and FGF-4, classified in class 514, subclass 44.
- CXV. Claims 11-16, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a genetic construct encoding BMP-4 and FGF-5, classified in class 514, subclass 44.
- CXVI. Claims 11-16, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a genetic construct encoding BMP-4 and FGF-6, classified in class 514, subclass 44.
- CXVII. Claims 11-16, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a genetic construct encoding BMP-4 and FGF-8, classified in class 514, subclass 44.

- CXVIII. Claims 11-16, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a genetic construct encoding BMP-4 and FGF-9, classified in class 514, subclass 44.
- CXIX. Claims 11-16, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a genetic construct encoding BMP-6 and FGF-1, classified in class 514, subclass 44.
- CXX. Claims 11-16, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a genetic construct encoding BMP-6 and FGF-2, classified in class 514, subclass 44.
- CXXI. Claims 11-16, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a genetic construct encoding BMP-6 and FGF-4, classified in class 514, subclass 44.
- CXXII. Claims 11-16, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a genetic construct encoding BMP-6 and FGF-5, classified in class 514, subclass 44.
- CXXIII. Claims 11-16, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a genetic construct encoding BMP-6 and FGF-6, classified in class 514, subclass 44.
- CXXIV. Claims 11-16, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a genetic construct encoding BMP-6 and FGF-8, classified in class 514, subclass 44.

- CXXV. Claims 11-16, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a genetic construct encoding BMP-6 and FGF-9, classified in class 514, subclass 44.
- CXXVI. Claims 11-16, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a genetic construct encoding BMP-7 and FGF-1, classified in class 514, subclass 44.
- CXXVII. Claims 11-16, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a genetic construct encoding BMP-7 and FGF-2, classified in class 514, subclass 44.
- CXXVIII. Claims 11-16, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a genetic construct encoding BMP-7 and FGF-4, classified in class 514, subclass 44.
- CXXIX. Claims 11-16, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a genetic construct encoding BMP-7 and FGF-5, classified in class 514, subclass 44.
- CXXX. Claims 11-16, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a genetic construct encoding BMP-7 and FGF-6, classified in class 514, subclass 44.
- CXXXI. Claims 11-16, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a genetic construct encoding BMP-7 and FGF-8, classified in class 514, subclass 44.

- CXXXII. Claims 11-16, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a genetic construct encoding BMP-7 and FGF-9, classified in class 514, subclass 44.
- CXXXIII. Claims 11-16, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a genetic construct encoding BMP-12 and FGF-1, classified in class 514, subclass 44.
- CXXXIV. Claims 11-16, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a genetic construct encoding BMP-12 and FGF-2, classified in class 514, subclass 44.
- CXXXV. Claims 11-16, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a genetic construct encoding BMP-12 and FGF-4, classified in class 514, subclass 44.
- CXXXVI. Claims 11-16, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a genetic construct encoding BMP-12 and FGF-5, classified in class 514, subclass 44.
- CXXXVII. Claims 11-16, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a genetic construct encoding BMP-12 and FGF-6, classified in class 514, subclass 44.
- CXXXVIII. Claims 11-16, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a genetic construct encoding BMP-12 and FGF-8, classified in class 514, subclass 44.

CXXXIX. Claims 11-16, 20, 21, to the extent that they are drawn to a method inducing cardiogenesis in cells of non-cardiac lineage in vitro by exposing the cells to a genetic construct encoding BMP-12 and FGF-9, classified in class 514, subclass 44.

The inventions are distinct, each from the other because of the following reasons:

The following pairwise combinations of products are independent and distinct, wherein neither member of a pair is required for the production or use of the other, and wherein each of the pair can be manufactured independently of the other and used for independent and distinct purposes: I and each of II-XXXIV; II and each of III-XXXIV; III and each of IV-XXXIV; IV and each of V-XXXIV; V and each of VI-XXXIV; VI and each of VII-XXXIV; VII and each of VIII-XXXIV; VIII and each of IX-XXXIV; IX and each of X-XXXIV; X and each of XI-XXXIV; XI and each of XII-XXXIV; XII and each of XIII-XXXIV; XIII and each of XIV-XXXIV; XIV and each of XV-XXXIV; XV and each of XVI-XXXIV; XVI and each of XVII-XXXIV; XVII and each of XVIII-XXXIV; XVIII and each of XIX-XXXIV; XIX and each of XX-XXXIV; XX and each of XXI-XXXIV; XXI and each of XXII-XXXIV; XXII and each of XXIII-XXXIV; XXIII and each of XXIV-XXXIV; XXIV and each of XXV-XXXIV; XXV and each of XXVI-XXXIV; XXVI and each of XXVII-XXXIV; XXVII and each of XXVIII-XXXIV; XXVIII and each of XXIX-XXXIV; XXIX and each of XXX-XXXIV; XXX and each of XXXI-XXXIV; XXXI and each of XXXII-XXXIV; XXXII and each of XXXIII-XXXIV; XXXIII and each of XXXIV-XXXIV.

The following pairwise combinations of methods are independent and distinct, wherein each member of a pair performs different functions, using different starting materials and/or process steps: XXXV and each of XXXVI-CXXXIX; XXXVI and each of XXXVII-CXXXIX; XXXVII and each of XXXVIII-CXXXIX; XXXVIII and each of XXXIX-CXXXIX; XXXIX and each of XL-CXXXIX; XL and each of XLI-CXXXIX; XLI and each of XLII-CXXXIX; XLII and each of XLIII-CXXXIX; XLIII and each of XLIV-CXXXIX; XLIV and each of XLV-CXXXIX; XLV and each of XLVI-CXXXIX; XLVI and each of XLVII-CXXXIX; XLVII and each of XLVIII-CXXXIX; XLVIII and each of XLIX-CXXXIX; XLIX and each of L-CXXXIX; L and each of LI-CXXXIX; LI and each of LII-CXXXIX; LII and each of LIII-CXXXIX; LIII and each of LIV-CXXXIX; LIV and each of LV-CXXXIX; LV and each of LVI-CXXXIX; LVI and each of LVII-CXXXIX; LVII and each of LVIII-CXXXIX; LVIII and each of LIX-CXXXIX; LIX and each of LX-CXXXIX; LX and each of LXI-CXXXIX; LXI and each of LXII-CXXXIX; LXII and each of LXIII-CXXXIX; LXIII and each of LXIV-CXXXIX; LXIV and each of LXV-CXXXIX; LXV and each of LXVI-CXXXIX; LXVI and each of LXVII-CXXXIX; LXVII and each of LXVIII-CXXXIX; LXVIII and each of LXIX-CXXXIX; LXIX and each of LXX-CXXXIX; LXX and each of LXXI-CXXXIX; LXXI and each of LXXII-CXXXIX; LXXII and each of LXXIII-CXXXIX; LXXIII and each of LXXIV-CXXXIX; LXXIV and each of LXXV-CXXXIX; LXXV and each of LXXVI-CXXXIX; LXXVI and each of LXXVII-CXXXIX; LXXVII and each of LXXVIII-CXXXIX; LXXVIII and each of LXXIX-CXXXIX; LXXIX and each of LXXX-CXXXIX; LXXX and each of LXXXI-CXXXIX; LXXXI and each of LXXXII-CXXXIX; LXXXII and each of LXXXIII-CXXXIX; LXXXIII and each of LXXXIV-

CXXXIX; LXXXIV and each of LXXXV-CXXXIX; LXXXV and each of LXXXVI-CXXXIX; LXXXVI and each of LXXXVII-CXXXIX; LXXXVII and each of LXXXVIII-CXXXIX; LXXXVIII and each of LXXXIX-CXXXIX; LXXXIX and each of XC-CXXXIX; XC and each of XCI-CXXXIX; XCI and each of XCII-CXXXIX; XCII and each of XCIII-CXXXIX; XCIII and each of XCIV-CXXXIX; XCIV and each of XCV-CXXXIX; XCV and each of XCVI-CXXXIX; XCVI and each of XCVII-CXXXIX; XCVII and each of XCVIII-CXXXIX; XCVIII and each of XCIX-CXXXIX; XCIX and each of C-CXXXIX; C and each of CI-CXXXIX; CI and each of CII-CXXXIX; CII and each of CIII-CXXXIX; CIII and each of CIV-CXXXIX; CIV and each of CV-CXXXIX; CV and each of CVI-CXXXIX; CVI and each of CVII-CXXXIX; CVII and each of CVIII-CXXXIX; CVIII and each of CIX-CXXXIX; CIX and each of CX-CXXXIX; CX and each of CXI-CXXXIX; CXI and each of CXII-CXXXIX; CXII and each of CXIII-CXXXIX; CXIII and each of CXIV-CXXXIX; CXIV and each of CXV-CXXXIX; CXV and each of CXVI-CXXXIX; CXVI and each of CXVII-CXXXIX; CXVII and each of CXVIII-CXXXIX; CXVIII and each of CXIX-CXXXIX; CXIX and each of CXX-CXXXIX; CXX and each of CXXI-CXXXIX; CXXI and each of CXXII-CXXXIX; CXXII and each of CXXIII-CXXXIX; CXXIII and each of CXXIV-CXXXIX; CXXIV and each of CXXV-CXXXIX; CXXV and each of CXXVI-CXXXIX; CXXVI and each of CXXVII-CXXXIX; CXXVII and each of CXXVIII-CXXXIX; CXXVIII and each of CXXIX-CXXXIX; CXXIX and each of CXXX-CXXXIX; CXXX and each of CXXXI-CXXXIX; CXXXI and each of CXXXII-CXXXIX; CXXXII and each of CXXXIII-CXXXIX; CXXXIII and each of CXXXIV-CXXXIX; CXXXIV and each of CXXXV-CXXXIX; CXXXV and each of CXXXVI-

CXXXIX; CXXXVI and each of CXXXVII-CXXXIX; CXXXVII and each of CXXXVIII-CXXXIX; CXXXVIII and each of CXXXIX-CXXXIX.

Each of the products of I-XXXIV and each of the methods of XXXV-LXIX are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the each of the methods could be practiced with any of the other compositions. The product could could also be used in vitro in each of the methods of LXX-CIV.

Each of the products of I-XXXIV and each of the methods of LXX-CIV are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the each of the methods could be practiced with any of the other compositions. The product could could also be used in vivo in each of the methods of XXXV-LXIX.

The following pairwise combinations of products and methods are independent and distinct, wherein the respective products may neither be produced by, nor used in the



respective methods: I and each of CV-CXXXIX; II and each of CV-CXXXIX; III and each of CV-CXXXIX; IV and each of CV-CXXXIX; V and each of CV-CXXXIX; VI and each of CV-CXXXIX; VII and each of CV-CXXXIX; VIII and each of CV-CXXXIX; IX and each of CV-CXXXIX; X and each of CV-CXXXIX; XI and each of CV-CXXXIX; XII and each of CV-CXXXIX; XIII and each of CV-CXXXIX; XIV and each of CV-CXXXIX; XV and each of CV-CXXXIX; XVI and each of CV-CXXXIX; XVII and each of CV-CXXXIX; XVIII and each of CV-CXXXIX; XIX and each of CV-CXXXIX; XX and each of CV-CXXXIX; XXI and each of CV-CXXXIX; XXII and each of CV-CXXXIX; XXIII and each of CV-CXXXIX; XXIV and each of CV-CXXXIX; XXV and each of CV-CXXXIX; XXVI and each of CV-CXXXIX; XXVII and each of CV-CXXXIX; XXVIII and each of CV-CXXXIX; XXIX and each of CV-CXXXIX; XXX and each of CV-CXXXIX; XXXI and each of CV-CXXXIX; XXXII and each of CV-CXXXIX; XXXIII and each of CV-CXXXIX; XXXIV and each of CV-CXXXIX.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and the searches required are not coextensive, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

ANY INQUIRY CONCERNING THIS COMMUNICATION OR EARLIER COMMUNICATIONS FROM THE EXAMINER SHOULD BE DIRECTED TO DAVID S. ROMEO WHOSE TELEPHONE NUMBER IS (703) 305-4050. THE EXAMINER CAN NORMALLY BE REACHED ON MONDAY THROUGH FRIDAY FROM 7:30 A.M. TO 4:00 P.M.

IF ATTEMPTS TO REACH THE EXAMINER BY TELEPHONE ARE UNSUCCESSFUL, THE EXAMINER'S SUPERVISOR, GARY KUNZ, CAN BE REACHED ON (703) 308-4623.

IF SUBMITTING OFFICIAL CORRESPONDENCE BY FAX, APPLICANTS ARE ENCOURAGED TO SUBMIT OFFICIAL CORRESPONDENCE TO THE FOLLOWING TC 1600 BEFORE AND AFTER FINAL RIGHTFAX NUMBERS:

BEFORE FINAL (703) 872-9306

AFTER FINAL (703) 872-9307

IN ADDITION TO THE OFFICIAL RIGHTFAX NUMBERS ABOVE, THE TC 1600 FAX CENTER HAS THE FOLLOWING OFFICIAL FAX NUMBERS: (703) 305-3592, (703) 308-4242 AND (703) 305-3014.

CUSTOMERS ARE ALSO ADVISED TO USE CERTIFICATE OF FACSIMILE PROCEDURES WHEN SUBMITTING A REPLY TO A NON-FINAL OR FINAL OFFICE ACTION BY FACSIMILE (SEE 37 CFR 1.6 AND 1.8).

FAXED DRAFT OR INFORMAL COMMUNICATIONS SHOULD BE DIRECTED TO THE EXAMINER AT (703) 308-0294.

ANY INQUIRY OF A GENERAL NATURE OR RELATING TO THE STATUS OF THIS APPLICATION OR PROCEEDING SHOULD BE DIRECTED TO THE GROUP RECEPTIONIST WHOSE TELEPHONE NUMBER IS (703) 308-0196.



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PRIMARY EXAMINER  
ART UNIT 1647